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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/783,031	02/23/2004	Christopher Martin	200209039-2	3785

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FORT COLLINS, CO 80527-2400

EXAMINER
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HASSAN, AURANGZEB

ART UNIT	PAPER NUMBER
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2182

MAIL DATE	DELIVERY MODE
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09/21/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/783,031

Applicant(s)

MARTIN, CHRISTOPHER

Examiner

Aurangzeb Hassan

Art Unit

2182

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 22-27 and 29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 22-27 and 29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |  |
|--|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. <u>4/24/07</u>                              |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application  |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                           |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/18/2007 has been entered.

### ***Specification***

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The claim limitations necessitate transporting data past a transducer however there is no mention in the specification of a transducer.

The Examiner will best interpret the transducer as known to one of ordinary skill in the art to be represented by the read/write head (paragraphs [0041 & 0054]).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. **Claims 22 – 27 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoki (US Patent Number 6,069,763) in view of Applicant's Admitted Prior Art hereinafter "AAPA".**

5. As per claim 22, 25, 26, 27 and 29, Aoki teaches a tape drive unit comprising: a data compression engine (rotary control mechanism 5, figure 1A) configured to selectively apply compression to an incoming data stream (data compression means, column 5, lines 47 – 67) and output a compressed data stream (transferring to the rotary head, column 6, lines 1 – 6); a buffer memory configured to store said compressed data stream (second memory means<sup>Not shown</sup> is the buffer memory in which the data is compressed and stored until transfer, column 6, lines 1 – 6); a monitoring element configured to monitor a data occupancy level (the amount of compressed data in the secondary memory is directly related to running speed sensing mechanism column 6, lines 1 – 5 and the residual amount sensing mechanism 2, column 4, lines 18 – 25, which monitor the level of data in the buffer as it is input, compressed and output); and a control element configured to disable said data compression engine (compression engine is controlled by memory and tape sensing mechanisms, on/off control element from the memory, column 1 lines 59 – 67, column 2, lines 1 – 15).

Aoki does not explicitly disclose a monitoring element to monitor the buffer comprising the compressed data.

AAPA teaches a tape drive unit comprising: a monitoring element (paragraph [0011]) configured to monitor a data occupancy level of said buffer memory (monitoring

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of data level in buffer from 0% to 100% in figure 2); and a control element configured to disable the buffer (data compression) output based upon a predetermined level of the data occupancy level of the buffered memory (based on the level 201, figure 2, disabled at 303, figure 3).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the teachings of Aoki with the known buffer monitoring disable of the AAPA. One of ordinary skill would be motivated to make such modification in order to allow for advanced tape control, (paragraphs 0009-0011)

The compression engine and buffer memory of Aoki are "configured to" accomplishing various data handling techniques and no teachings of Aoki stipulate that the "configured to" steps of the claim limitations cannot be accomplished by the prior art.

6. As per claim 23, Aoki teaches a tape drive unit comprising: a tape transport mechanism for transporting a tape data storage medium past a transducer (rotary head, 8 and 9, figure 1b); wherein said tape transport mechanism is operable to continue streaming of said tape (streaming, figure 7), whilst said data compression engine is in an enabled mode, and whilst said compression engine is in a disabled mode (controlling the data compression engine with on/off enable/disable functionality, column 2, lines 9 – 15).

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7. As per claim 24, Aoki teaches a tape drive unit comprising: a tape transport mechanism configured to transport a tape data storage medium past a transducer (rotary head is the transducer, 8 and 9, figure 1b); and a tape speed control element configured to control said tape transport mechanism for transporting said tape at a variable speed; wherein said tape speed is variable according to a data occupancy level of said buffer memory (speed varies according to the data residual amount in the buffer, column 4, lines 7 – 25).

8. **Claims 22 – 27 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over a first AAPA embodiment represented in figure 4 hereinafter “AAPA4” in view of a second AAPA embodiment represented in figures 2 and 3 hereinafter “AAPA23”.**

9. As per claim 22, 25, 26, 27 and 29, AAPA4 teaches a tape drive unit (403, figure 4) comprising: a data compression engine (404, figure 4) configured to selectively apply compression to an incoming data stream (data stream 402, figure 4) and output a compressed data stream (30 Mb/s data stream output from 403, figure 4); a buffer memory configured to store said compressed data stream (buffer, figure 4);

AAPA4 does not explicitly disclose a monitoring and control element.

AAPA23 teaches a tape drive unit comprising: a monitoring element configured to monitor a data occupancy level of said buffer memory; and a control element configured to disable said data compression engine based upon a predetermined level

of the data occupancy level of the buffered memory (disabled at 303, figure 3 which is based on the level 201, figure 2).

All the components are known in the 1<sup>st</sup> and 2<sup>nd</sup> embodiments as prior art. It would have been obvious to one of ordinary skill in the art to combine known elements in the first and second embodiments of data compression engine storing data in a buffer and having a buffer that is monitored by a predetermined level. One would be motivated to have a control monitoring mechanism of the data compressed buffer to prevent buffer overflowing.

10. As per claim 23, AAPA23 teaches a tape drive unit comprising: a tape transport mechanism for transporting a tape data storage medium past a transducer (head used to write to tape is the transducer); wherein said tape transport mechanism is operable to continue streaming of said tape (stream input to figure 2), whilst said data compression engine is in an enabled mode, and whilst said compression engine is in a disabled mode (figure 3 shows on and off over the axis time).

11. As per claim 24, AAPA23 teaches a tape drive unit comprising: a tape transport mechanism configured to transport a tape data storage medium past a transducer (head used to write to tape is the transducer); and a tape speed control element configured to control said tape transport mechanism for transporting said tape at a variable speed; wherein said tape speed is variable according to a data occupancy level of said buffer memory (figure 3 as directly related to figure 2).

### ***Response to Arguments***

12. Applicant's arguments with respect to claims 22 – 27 and 29 and the structural relationship between the current application and Aoki have been considered but are moot in view of the new ground(s) of rejection.

13. The Examiner notes that the Applicant has not seasonably traversed the rejection upon the Applicant's Admitted Prior Art therefore it assumed applicant acquiesces to the rejection. Furthermore the Examiner has provided additional citations in order to better understand the rejection in view of the newly amended claim limitations.

14. The Examiner notes that in the previous rejection dated 3/21/2007 claims 23 and 24 were rejected under a 103 (a) of Aoki in view of Langdon Jr. et al. (US Patent Number 5,097,261) for the claim limitations of a transducer. However, in view of the objection to the specification and better understanding that the transducer can be best interpreted as the read/write head the Examiner has now rejected the claims under Aoki as one of ordinary skill in the art would clearly recognize that a head is required in the utilization of tape as a storage medium (magnetic tape 10, figure 1B).

### ***Conclusion***



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15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Langdon and US Patent Number 4,423,480 are cited for transducer combination with a data compression system as applicable to the current application. US Patent Number 5,969,897 is cited as a data recording system on a tape media with varying speed adjustments as applicable to the current application.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aurangzeb Hassan whose telephone number is (571) 272-8625. The examiner can normally be reached on Monday - Friday 9 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Huynh can be reached on (571) 272-4147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
KIM HUYNH  
SUPERVISORY PATENT EXAMINER

9/17/07